REMARKS

In response to the Office Action mailed November 19, 2004, Applicants have amended claims 1, 5, 6, 8-10, 12, and 13. Claims 1-13 are presented for examination.

The examiner has objected to the specification under 37 C.F.R. 1.72(b) for lacking an abstract. In response, Applicant has added an abstract.

The examiner also objected to the specification and to claims 6-10 because of certain informalities. In response, Applicant has amended the specification and claims 6-10 to obviate the objections, and now requests that the objections be withdrawn.

The Examiner has rejected claim 1-13 under 35 U.S.C. §102(b) as being anticipated by *Olaffson* (WO 99/12267).

Applicant's amended claim 1 includes a digital probing signal that has a sequence of probing frames. Each probing frame has at least two frame portions, each having the same number of digital symbols. Each digital symbol has one sign bit and one data bit. The absolute digital values of all symbols in the frame portions are equal and a value of the sign bit changes with every adjacent frame portion. *Olaffson* fails to describe or suggest such a probing signal.

For example, in Fig. 5, *Olaffson* describes a learning signal having "N segments 502 with L symbols per segment" (page 23, lines 10-11). The segments each include training symbols, for example B, -B, C, -C, D, and –D (Fig. 5). Exemplary learning sequences, shown on page 24, lines 7-11, are:

B, A, -A, -B, A, A, -B, -A, A, B, -A, -A

C, A, -A, -C, A, A, -C, -A, A, C, -A, -A

D, A, -A, -D, A, A, -D, -A, A, D, -A, -A

E, A, -A, -E, A, A, -E, -A, A, E, -A, -A

As shown in these exemplary learning sequences, the sign bit does *not* change with every adjacent frame portion as recited in Applicant's claim 1. In addition, in *Olaffson* the data bit has four different values (B, C, D, and E). Thus, three bits are needed to define the eight combinations (B, -B, C, -C, D, and –D). Therefore, in *Olaffson* more than one sign bit and one data bit are used to define the digital symbols in the frame portion of the probing frame. Since

Olaffson uses more than two bits to define the digital symbols, *Olaffson* does not disclose or suggest each digital symbol having "one sign bit and one data bit" as recited in the applicant's claim 1.

As amended, claims 5, 12, and 13 include the limitation of each digital symbol having one sign bit and one data bit. Based on this limitation, claims 5, 12, and 13 are patentable for at least some of the reasons discussed above in relation to claim 1.

Claims 2-4 and 6-11 depend from claims 1 and 5 respectively, and are patentable for at least the same reasons as the claims on which they depend.

Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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